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The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Bureau of Waste Prevention

Daniel S. Greenbaum
Commissioner

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Assistant Commissioner

One Winter Street, Boston, Mass. 02108

October 31, 1990

Dear Operator:

Enclosed for your information please find Guidance Document #1, Lead Acid Battery Bans for Solid Waste Disposal Facilities Receiving More than 300 Tons Per Day. It was our intention to get this document to you prior to the plan filing date and we will endeavor to provide more timely guidance on future bans. Most of the effected facilities have nevertheless made good faith efforts to comply with the ban requirement.

We will shortly be releasing a packet of guidance materials for smaller facilities and for communities. Our guidance to communities will describe the regulatory requirements placed on facilities, however, the major thrust of that guidance will be to emphasize the importance of separating batteries before they enter the waste stream. The Division's interest is to encourage and direct the communities in establishing local solutions for battery recycling.

Very truly yours,

Willa Small Kuh
Willa S. Kuh
Director, Division of Solid Waste Management

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LEAD ACID BATTERIES BANS
FOR SOLID WASTE DISPOSAL FACILITIES
RECEIVING MORE THAN 300 TONS PER DAY
GUIDANCE DOCUMENT #1
OCTOBER 1990

This document provides guidance to operators of disposal facilities receiving more than three hundred tons per day of solid waste for compliance with the ban on disposal of lead-acid batteries under 310 CMR 19.000 - PART I - General Requirements, Procedures and Permits for Solid Waste Management Facilities, July 1, 1990. The Waste Control provisions of these regulations (CMR 19.017) set forth the purposes, materials covered, disposal restrictions, timetable, compliance plan requirements and exceptions criteria for this program.

The regulations require that the facility operator submit a plan to the Department which describes the actions to be taken to achieve effective compliance with the disposal ban. The regulations further set forth the factors the Department may consider in determining if a plan is adequate to prevent the disposal of a restricted material. Compliance with the ban is enforced through compliance with an approved plan.

This document delineates the contents of an adequate waste control plan. The general compliance provisions define the basic plan components for all disposal facilities. The options described in the diversion and inspection sections do not preclude compliance by other procedures provided that an alternative should address all the relevant components set forth in the guidance options and be equivalent or superior to the guidance options in preventing the disposal of restricted material. Disposal facilities which do not handle MSW and whose waste stream is unlikely to contain lead acid batteries (e.g., ash landfills, demolition-only landfills) may comply with this requirement by submitting a letter to that effect, with a commitment to remove any battery observed in the waste stream.

(1) State Purpose in Restricting Disposal or Incineration of Lead-Acid Batteries and other Recyclable Materials

DEP is guided by the Statewide Solid Waste Master Plan's integrated solid waste management hierarchy in placing restrictions on the disposal of those materials covered by CMR 19.017. This hierarchy of waste management methods was adopted both to protect the public health and environment and to preserve existing and planned waste disposal capacity. The hierarchy specifies that the Commonwealth's preferred waste management

approaches are source reduction, recycling and composting.

It is estimated that approximately 85% of the lead acid batteries generated annually are recycled through existing scrap and auto parts dealers. The purpose of the ban is to take advantage of this existing market and increase the capture of the economic value of that portion which is now discarded and reduce the potential adverse impact battery constituents may cause to facility operations and the environment. At combustion facilities, the separation and recycling of lead-acid batteries will reduce the impacts of combustion and ash management as well as improve safety conditions for facility operators. In landfills, crushed and buried batteries not only pose a safety hazard to operators but may contribute lead and sulfuric acid constituents to leachate increasing the risk of groundwater contamination and the impacts of leachate collection and treatment.

(2) Restricted Material Addressed by this Guidance

Lead-acid batteries used in motor vehicles or stationary applications.

(3) Solid Waste Facilities Covered by Restriction on Lead-Acid Battery Disposal

Existing and proposed solid waste disposal facilities including: landfills, incinerators and waste-to-energy facilities; both privately and publicly owned facilities.

(4) Effective Date for Implementation of Disposal Restriction

December 31, 1990.

(5) Deadline for Facility Operator Submission of Compliance Plan

Facilities greater than 300 TPD* - October 3, 1990

Facilities less than or equal to 300 TPD* - December 31, 1990

* TPD = Tons Per Day as per an Department approved Operating Plan or as proposed in a new facility permit application.

(6) Required Elements of a Facility Compliance Plan

The Department has developed two acceptable compliance options for facility operators pursuant to the requirements of CMR 19.017. Common to each of the compliance plan options are the

following components: a description of present waste receiving/handling procedures; notification to facility waste sources of lead-acid battery disposal restriction, installation of facility signage informing waste suppliers of battery disposal restriction, appropriate amendment to facility operating manual and operator instructions regarding battery handling; and record keeping and annual compliance activity reporting procedures. It is also preferred that the plans included efforts to educate the public on existing opportunities to recycle lead acid batteries.

Option A emphasizes the responsibilities and the initiative of the facility operator in providing a positive opportunity for waste generators to properly manage discarded lead-acid batteries. Acceptable management methods include the collection and storage of the batteries either for recycling or for disposal through a licensed hazardous waste transporter (if the battery is cracked or leaking). This is the approach the Department prefers disposal facility operators adopt and which it seeks to encourage by waiving the inspection program requirement under Option B.

Option B stresses the responsibility and vigilance of the operator in informing waste generators and waste suppliers that lead-acid batteries will not be accepted at the facility and in maintaining an inspection program designed to keep non-source separated batteries out. This compliance plan option requires an inspection program by facility operators.

1. General Compliance Plan Requirements

- (a) Provide a description of present facility operations including:
 - (i) types of waste accepted/excluded and procedures employed to hold waste suppliers accountable for violations (document exclusions via contracts or facility rules and regulations);
 - (ii) description of waste sources by type of source (residential, institutional, commercial, demolition/ construction) and quantity delivered per year;
 - (iii) provide breakdown of type and number of vehicles for average day of facility operations;
 - (iv) receiving method for incoming waste;
 - (v) current procedure for management of any lead acid batteries received;
 - (vi) current monitoring or inspection program for excluded wastes;

- (b) Provide and document written notice to contracted and regular or frequent spot market waste suppliers that the facility will not accept lead-acid batteries mixed with solid waste (operators must submit and provide information required by Form 19.017A to DEP in order to satisfy this notification requirement);
- (c) Install and submit to DEP certification of installation of appropriate signage at facility entrance and at waste receiving area informing facility users of prohibition of lead-acid batteries mixed with solid waste;
- (d) Provide to the Department a copy of the draft written instructions which will be distributed to the facility operations staff on implementation of the proposed plan;
- (e) Describe proposed procedures for holding waste suppliers accountable for violations of ban on mixing of lead-acid batteries with solid waste.
- (f) Provide the Department with a summary report on activities under the facility's approved compliance plan: by February 15, 1992 - covering the first year from the effective date of the lead-acid battery ban; and, thereafter, annually, on or before February 15th - covering the prior calendar year.

2 (A) Separation and Diversion Plan Components - Option A

- (a) Provide a description of operator's plan for maximizing lead-acid battery recycling opportunities for facility waste suppliers. Assistance in providing recycling opportunities for waste suppliers shall address:
 - on-site collection station at the facility (see "(b)" below) and
 - (i) technical or other assistance for contract communities or commercial operators in the design and management of drop-off battery recycling or temporary storage stations and in securing battery markets; or
 - (ii) coordination with refuse collection companies to arrange on-vehicle separation and storage for batteries and/or special curbside collections of lead-acid batteries.

- (b) Provide a plan for an on-site battery collection station, available for facility users or the general public, designed to provide appropriate storage for batteries being accumulated for recycling. If the operator is also accepting broken or leaking batteries for temporary storage pending disposal through a licensed hazardous waste transporter the plan shall describe the storage, handling and disposal arrangements for such batteries [See Attachment A];
- (c) Maintain records on number and disposition of lead-acid batteries received. Provide DEP with a copy of these records as part of the annual compliance plan activity reports under "1 (f)"

2 (B) Waste Load Inspection Plan Components - Option B

- (a) Propose a facility specific inspection plan which provides:
 - (i) for all inspected loads to be raked or otherwise spread across a designated inspection area;
 - (ii) for visual screening of the above material for lead-acid batteries or containers which could contain said batteries;
 - (iii) for opening of said containers to inspect contents; and
 - (iv) the procedure to be followed in the event that a battery is discovered.
 - (v) the procedure by which vehicle inspections shall be conducted each month at a rate equivalent to an inspection for every 100th ton of 500th cubic yard of waste received but not less than three vehicles.
- (b) If the inspection is to be conducted on a single day the appropriate DEP regional office shall be notified in writing at least ten (10) working days in advance of a scheduled inspection day. If the inspections are conducted throughout the month the plan shall include a schedule or other similar mechanism by the Department will have advance notice of dates upon which a

significant number of inspections will occur.

(c) Maintain records on inspection program activities including: date of inspection; number of tons or cubic yards of solid waste received on inspection day; transporter's name, address and phone number for each load inspected; number of tons or cubic yards in each inspected load; and the total number and type of lead-acid batteries found, retained by the operator for recycling or disposal or returned to the transporter.

The above inspection program data shall be attached to the comprehensive facility inspection report covering the period in which the inspection took place. Consulting engineers performing facility inspections shall certify in the inspection report covering the period of a scheduled lead-acid battery inspection day that said inspection occurred in the manner described in the operator's DEP approved compliance plan. In addition, these inspection program data shall be summarized and incorporated within the facility's annual compliance plan activity report under "1 (f)" above.

ATTACHMENT A

Design and Operating Guidelines for Lead-Acid Battery Collection Stations

1. Base of battery storage area must be constructed with a bermed concrete pad (substitution of steel tank or drum for concrete pad at small facilities will be considered);
2. Storage area must be covered by a shed roof, awning or other means of preventing water infiltration;
3. Access to storage area must be restricted when facility is unattended;
4. Batteries must be removed for recycling or M.G.L. Chapter 21C disposal every 180 days from the accumulation start date.

Note: Facility operators installing lead-acid battery collection stations must follow the above guidelines and submit relevant details of installation to respective DEP Regional Office for concurrence and incorporation within approved facility operating plan.

ATTACHMENT B

FORM 19.017A

OPERATOR CERTIFICATION OF NOTICE TO WASTE
SOURCES ON RESTRICTION OF LEAD-ACID BATTERY
DISPOSAL

1. Name of Facility Owner and Operator:

Owner _____ Operator _____

2. Facility Address and Location:

Street Address _____ Mailing Address _____

3. Name and Phone Number of Official Facility Contact:

Name _____ Title _____ Phone _____

4. Facility Type:

Landfill _____ Incinerator _____ Waste-to-Energy Facil. _____

5. Current Plan Approval Date: _____

6. Attach copy of letter to waste suppliers incorporating the
following statement:

Effective December 31, 1990 pursuant to Massachusetts
Department of Environmental Protection Regulations 310
CMR 19.017, this facility will no longer accept lead-
acid batteries for disposal.

7. *Attach a list of contract and spot waste suppliers
including:

- waste hauler name/address
- municipal jurisdiction(s) where waste originates
- contracted tonnage (use estimated tonnage for regular
spot waste suppliers)

* Note: This list also satisfies submission requirement under
General Compliance Plan requirement "1(a)(ii)"

ATTACHMENT C

LEAD-ACID BATTERY RECYCLING INFORMATION

NATIONAL LEAD RECYCLING RATES

According to several federal government and industry trade association sources the current lead-acid battery recycling rate in the U.S. is 80% or greater. Based on industry battery production and replacement statistics, these recycling rates translate to over 4,000 tons per year of battery lead being burned, landfilled or illegally disposed in Massachusetts. DEP believes there is little reason today for this level of battery disposal to continue.

NATIONAL LEAD MARKETS

Current lead demand and prices at secondary lead smelters are high and these are generally reflected at the regional and local level in the willingness of scrap metal and other recyclers to pay for batteries. Lead-acid batteries are by far the largest source of secondary lead for the secondary smelting industry. U.S. EPA sponsored research indicates that existing and planned capacity in the secondary lead smelting industry is sufficient to absorb the lead associated with higher recycling rates now being promoted by the states. The International Battery Council (a trade association representing about 95% of the U.S.'s lead battery manufacturer's and recyclers) has recently indicated its interest in and commitment to new secondary lead supply through its promotion of battery recycling legislation to state and federal governments. At the consumer level, most if not all Massachusetts battery retailers and auto service stations will accept old batteries at no charge in exchange for a new battery (or may even credit the old battery for a discount on a new one).

COLLECTION OPTIONS AND LOCAL LEAD MARKETS

Many municipal solid waste facilities maintain recycling areas where residents' used lead-acid batteries are accepted at low or no charge. Scrap metal dealers and other private recyclers are available in most regions of the state to pick-up quantities of batteries at no cost (and in some cases pay \$1.50/battery) at the solid waste facility site. If the environmental impacts of battery disposal are insufficient to motivate citizens and local governments to recycle batteries, then disposal cost avoidance should provide the required incentive. Appropriately prepared and maintained battery collection stations cost little in labor and materials while the combination of battery sale revenues and avoided disposal costs in the long run are certain to cover the small initial investment.

Solid waste management facilities receiving small volumes of batteries may pursue any one of several options for getting them to market. Batteries may be delivered to a local recycler or scrap metal dealer in small dump trucks, pick-up trucks, flat bed trucks or trailers. Small facility operators may band together if necessary to persuade recycling firms to provide "milk-run" collection services for their facilities. Lastly, local battery retailers and automotive service stations may be willing and able to combine municipal used battery loads with their own for shipment back to secondary smelters and battery producers.

Large volume facilities may accumulate sufficient quantities of batteries to obtain regular collection service from scrap metal dealers, recyclers or even the battery producers themselves. Alternatively, in order to shop around for the best price and simplest preparation requirements, large volume facilities may decide to market and ship their batteries directly to used battery dealers and secondary smelters.

A partial list of scrap metal dealers, recycling firms and battery producers is provided below. These firms should be contacted in order to obtain current price information, details on preparation requirements and availability of collection service. It is best to obtain this information prior to program start-up to avoid surprises concerning battery preparation and price details after a large load has already been accumulated. In general, current prices range from \$0 to \$1.50 per battery. Nearly all battery hauling and recycling firms will require that batteries be stacked on a pallet and be free of cracks or leaks. Some firms will require that all wet cell caps be intact and that the palletized load be banded, boxed or otherwise held in place. The seller may also have to provide a forklift or other machinery for loading the buyer's vehicle.

FIRMS ACCEPTING LEAD-ACID BATTERIES FOR RECYCLING
A Representative Listing

MASSACHUSETTS

Brockton Iron and Steel
45 Freight Street
Brockton
508-586-4640

Goldstein Scrap Metal
51 Harding
Worcester
508-754-5711

J.P. Carroll
770 Waltham Street
Lexington
617-861-6060

Kramer Scrap
P.O. Box 588
Greenfield
413-774-3103

P. Jacobson
508 Columbia Street
Somerville
617-666-8749

OTHER RESOURCES

Lenox Junk
1170 Massachusetts Ave.
Dorchester
617-288-2841

Nova Lead, Inc.
St. Catherine's, Quebec
Contact: Paul Stata
514-632-9910
518-561-1712

Tewksbury Metals
Danscomb Road
Tewksbury
508-851-5948

General Battery Corp.
Reading, PA
215-378-0500

Nissenbaum's Auto Parts
480 Columbia Street
Somerville
617-776-0194

Battery Council International
111 E. Whacker Drive
Suite 600
Chicago 60601
312-644-6610

Atlas
475 Columbia Street
Somerville
617-666-8440

Philip Lewis and Sons
90 Kemble Street
Roxbury
617-442-1250

Curboy Salvage
Curboy Road
Sturbridge
508-347-9650

